



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,261	04/20/2004	Riccardo Lonati	38921/GM/pal	2400

7590 02/28/2006  
MODIANO & ASSOCIATI  
Via Meravigli, 16  
20123 MILANO,  
ITALY

EXAMINER

DONDERO, WILLIAM E

ART UNIT PAPER NUMBER

3654

DATE MAILED: 02/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/827,261

Applicant(s)

LONATI, RICCARDO

Examiner

William E. Dondero

Art Unit

3654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>09/10/04</u> .  | 6) <input type="checkbox"/> Other: ____.                                    |

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers filed under 35 U.S.C. 119 (a)-(d) based on an application filed in Italy on April 30, 2003. Applicant has not complied with the requirements of 37 CFR 1.63(c), since the oath, declaration or application data sheet does not acknowledge the filing of any foreign application. A new oath, declaration or application data sheet is required in the body of which the present application should be identified by application number and filing date.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 3, 5, 6, and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 2, the limitation, "PID type" renders the claim indefinite. The claim does not contain language positively reciting structural features of the controller. Furthermore, PID type controllers are old and well known in the art.

Claim 3 recites the limitation "said means" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "the thread" and "said thread" in lines 1, 3, 4, and 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "said gram force signal" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "said thread" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "said thread" in line 2. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sainen et al. (USPN 4513790). Regarding Claims 1-3, Sainen et al. disclose a device for adjusting the force applied to a thread in a thread consuming machine comprising a control unit 48 that is adapted to drive power supply means 47 of a motor 21 for unwinding a thread to be fed to a thread consuming machine; force sensing means 19 adapted to detect the force applied to the thread and to emit a force signal; and a PID type controller (Figures 1 and 2; Column 2, Line 42 – Column 4, Line 53). Sainen et al. are silent about a comparator means adapted to compare a force signal with a reference signal in order to obtain a force error signal, wherein the control unit comprises a means to emit a signal for driving the power supply means of the motor

according to the force error signal of the thread and to a signal that is the derivative with respect to time of the force signal emitted by the force sensor means. However, it is old and well known in the art that PID type controllers include comparator means adapted to compare a process parameter with a reference set point to obtain an error signal and means adapted to emit a signal for driving a power supply means of a motor according to the error signal adjusting the process back towards the set point and to a signal that is the derivative, including the sign, with respect to time of the process parameter signal emitted a sensor monitoring the process parameter. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the comparator of a PID type controller to compare the force signal with a reference signal to control the tension of the thread feeding to the thread consuming machine because any tension variations can be detected and corrected quickly as taught by Sainen et al. (Column 5, Lines 51-53). Regarding Claim 4, Sainen et al. disclose the controller is adapted to drive the motor power supply means so as to supply the motor in order to maintain a constant tension (Column 5, Lines 51-53).

Regarding Claims 5-7, Sainen et al. are silent about the method for adjusting force applied to a thread of a thread consuming machine. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the force and equalizing tension discontinuities of the thread on the basis of a prediction of the behavior of the thread, the prediction being based on a derivative with respect to time of a force signal and at least one threshold that is set in relation to a force error signal obtained by comparing a force value detected by a force sensing means with a

Art Unit: 3654

reference force value; wherein the force error signal, together with the time derivative signal of the force applied to the thread, are sent to a controller that is adapted to drive power supply means of the motor in order to keep the tension of the thread constant; and wherein the time derivative signal of the force applied to the thread is evaluated as regards the sign of the derivative because these steps would result from the use of the device of Sainen et al. in its normal and expected fashion.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William E. Dondero whose telephone number is 571-272-5590. The examiner can normally be reached on Monday through Friday 7:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy Matecki can be reached on 571-272-6951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/827,261  
Art Unit: 3654

Page 6

wed

*Kathy Matecki*  
**KATHY MATECKI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600**